



# UNIVERSITY OF GOTHENBURG

## SCHOOL OF BUSINESS, ECONOMICS AND LAW

### Sustainable Banking: A Closer Look at Scandinavian Banks' Sustainability Activities and Stock Market Performance

Bachelor of Science (B.Sc.) in Finance

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## **Abstract**

This thesis investigates announcements of sustainability news in major commercial Scandinavian banks and their effect on stock market performance by conducting a quantitative research method using a standard event study methodology. Two research questions are employed with the aim of firstly investigating if there is any relationship and secondly if the relationship differs between announcements of good news and bad news regarding sustainability. By analyzing events between 2007 to 2016, no statistically significant evidence for a relationship between announcements of sustainability news and stock market performance is found. This thesis finds statistically significant evidence that investors seem to respond positively to announcements of good sustainability news and no evidence for announcements of bad sustainability news. Hence, major commercial Scandinavian banks should focus on communicating those sustainability activities that have a positive effect on sustainability to their shareholders and other stakeholders.

*Keywords:* Abnormal Returns, Banks, Event Study, Scandinavia, Sustainability

**JEL** Classifications: G14, G21, Q56

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# 1 Introduction

## *1.1 Background*

The current business model for shareholder value maximization with emphasis on short-term results has given rise to negative externalities in terms of social and environmental costs such as climate change, violation of human rights and poor corporate governance (Fatemi & Fooladi, 2013). Sustainable development in organizations is nowadays globally accepted as a necessity in order to minimize the negative externalities and create more viable living conditions for future generations.

Sustainability is a multifaceted concept incorporated in multiple fields of research (Eurosif, 2016). In a broad perspective, sustainability has the aim to minimize the negative effects while trying to maximize the positive effects on the surroundings. According to the Brundtland Report (1987), sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. Further, sustainable development is defined as “a process of achieving human development in an inclusive, connected, equitable, prudent, and secure manner” (Gladwin, Kennelly & Krause, 1995:878). However, from a business perspective, corporate sustainability refers to “voluntarily conducted company activities demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders” (Marrewijk, 2003:102).

An industry that has the advantage of interacting with the masses and thus the possibility to spur sustainable development is the banking industry. The role of banks in backing sustainable development is potentially enormous due to their unique position as intermediaries between people with shortages and people with surpluses of capital in the economy. Moreover, they have the power to direct investments to those companies, organizations and consumers that are willing to contribute to sustainable development. Therefore, they have the potential to indirectly influence the nature of economic growth that benefits sustainability by conducting activities aimed at influencing sustainability positively (Jeucken & Bouma, 1999).

One could argue that, by granting loans, investing in companies and ultimately financing companies that engage in activities that contribute to negative externalities, banks should be

responsible for the consequences of such activities (Jeucken, 2004). However, the skeptics raise the objection that a bank's only responsibility is toward its shareholders and that its responsibility does not call for dealing with social and environmental issues (Fatemi & Fooladi, 2013). In recent years, multiple scandals involving poor governance of banks have come to light in the media, not least considering the *Panama Papers* in which shell corporations were used for illegal purposes, including fraud, tax evasion, and evading international sanctions (ICIJ, 2016). Another prominent example of poor corporate governance that had a tremendous impact on stock market performance is that of the accounting fraud scandal of the energy company *Enron*. The shareholders of Enron lost nearly \$11 billion when the stock price plummeted to less than \$1 per share by the end of November 2001 (Fatemi & Fooladi, 2013). Management acting in the best interest of their shareholders should conduct activities that enhance their owners' value. Hence, it is of great interest for management to understand the value-creation potential for shareholders of sustainability activities. The responsibility of banks for dealing with social and environmental issues translates into sustainability activities and if this de facto creates value, then financial aims have been aligned with the collective aim of sustainability, thereby maximizing shareholder value while simultaneously contributing to a more sustainable world.

Sustainability in a banking context requires an operationalization of the concept. According to review of academic literature, media and information from the banking industry, sustainable banking includes fair and transparent disclosure as well as formulation and adoption of sustainable principles. Moreover, it includes development of sustainable products and self-regulatory measures including divesting in companies contributing to negative externalities, good corporate governance and compliance units controlling for potential money laundering and bribery scandals (Jeucken, 2004). In conclusion, this thesis defines sustainability as conscious environmental, social and economic initiatives that minimize negative externalities with long term value maximization for shareholders and other stakeholders.

It is only a matter of time before good environmental, social and governance performance will become the new norm for firms. Accordingly, firms that fail to recognize their environmental and social responsibilities will find themselves valued at a discount relative to their peers (Fatemi & Fooladi, 2013). Historically, the banking industry, being generally perceived as a rather filthy and greedy industry, has responded far more slowly to the sustainability challenge than other sectors (Jeucken, 2004; Jeucken & Bouma, 1999). However, a silent

revolution has been taking place in the financial industry in recent years. According to the United Nations Environment Programme from 2015, “sustainable development is gradually being incorporated into financial decision making”, as expressed by the Swedish Minister for Financial Markets and Consumer Affairs Per Bolund (Government Office of Sweden, 2015).

The ambition of this thesis is to conclude if a relationship between announcements of sustainability activities and stock market returns exists. The sustainability activities include both good news and bad news that are reported in the media through press releases from the banks themselves and through publications in newspapers and in other news sources. Good news is defined as an exogenous shock to investors’ valuation that contains information potentially leading to a stock price increase and consequently bad news is defined as an exogenous shock to investors’ valuation that contain information potentially leading to a stock price decline (Sletten, 2012).

The area of research of this thesis is limited to the major commercial Scandinavian banks listed on a stock exchange, that is banks that accepts deposits, makes business loans, and offers basic investment products in Sweden, Norway and Denmark. Scandinavian firms are widely considered global sustainability leaders and are disproportionately well represented in the leading global sustainability performance indices. Furthermore, Scandinavian governments and policymakers have set up systems that align financial aims with the collective aim of sustainability. There is a general tendency for corporations in a Scandinavian context to implement a value creating strategy based on cooperating with their stakeholders that result in greater value creation, named the *Scandinavian Cooperative Advantage* (Strand, Freeman & Hockerts, 2015). Therefore, the banking industry is of great interest to examine in a Scandinavian context.

Finding a relationship between announcements of sustainability activities and stock market performance would imply that there is added value for major commercial Scandinavian banks to conduct sustainable activities and that it is becoming the new norm. This might in turn lead to higher priority and more efficient handling of sustainable development for banks in the long-term.

## *1.2 Purpose and Research Questions*

The link between management and sustainable development has been an active area of research over recent years (Fatemi & Fooladi, 2013). The relationship between

announcements of sustainability activities and stock market performance has been tested in previous academic research. However, to the knowledge of the authors of this thesis, the Scandinavian banking sector as a research area in the context of sustainable banking has not yet been tested in previous academic research and there is therefore no clear empirical evidence. The findings of this thesis may be of economic importance since they could have an impact on the way major commercial Scandinavian banks conduct their sustainability initiatives, and could ultimately serve as a prominent example in the field of sustainable banking. Potentially, the results will help to understand the underlying factors to the relationship between sustainability activities and stock market performance. More importantly, they will bring clarity to whether Scandinavian banks' sustainability initiatives generate value and if bad sustainability performance is penalized.

The purpose of this thesis is to determine if and how announcements of sustainability activities affect stock market performance of major commercial Scandinavian banks. Furthermore, this thesis aims to conclude whether good news or bad news differ in their effects on stock market performance. Hence, the research questions for this thesis are the following:

- 1. Do announcements of sustainability activities affect stock market performance in the Scandinavian banking industry?*
- 2. Is there any difference in effect on stock market performance between announcements of good news and bad news?*

This thesis proceeds as follows: the theoretical framework and empirical evidence for the relationship between announcements of sustainability activities and stock market performance are presented in section 2. Going forward, data and method are described in section 3 while section 4 consists of research results and robustness test. The thesis continues with an analysis and discussion of results in section 5, conclusions in section 6 and ends with proposals for further research in section 7.



## **2 Theoretical Framework and Empirical Evidence**

### *2.1 Theoretical Framework*

The theories explained below are applicable for organizations in general. The theories serve as a base for explaining the underlying factors as to why the banks are conducting sustainability activities and the potential effects these have on banks' respective stock market performance.

#### **2.1.1 Efficient Market Hypothesis**

One of the most frequently used theories in financial economics is the efficient market hypothesis, implying that an asset's price fully and immediately reflects all available information in the market (Fama, 1970). The implication for the stock market investors is that stocks always trade at their fair value which makes it impossible for investors to outperform the market through stock selection and market timing techniques. Therefore, the only possible way for an investor to obtain higher returns is by chance or by investing in riskier securities (Fama & French, 2012). In testing market efficiency, the speed of adjustment to the information revealed at the time of the event is an empirical question. Thus, examination of returns after the day of the event provides information on market efficiency (Kothari & Warner, 2005). There are three degrees of the efficient market hypothesis: weak form, semi-strong form and strong form. The weak form implies that stock prices reflect all information that can be derived by examining market trading data, the semi-strong form suggests that all publicly available information is already reflected in stock prices and lastly the strong form denotes that stock prices reflect all information, including both publicly available information and private information (Fama, 1970).

#### **2.1.2 Stakeholder Theory**

Within the area of sustainability activities in corporations, the stakeholder theory is often used, not least since the rationale behind social responsibility in corporations is that firms have a responsibility towards numerous stakeholders (Lourenço, Branco, Curto & Eugénio, 2012). The theory tries to identify which groups are stakeholders within and outside of the corporation, and should therefore be of concern for management when making decisions. Stakeholders are any group or individual who can affect or is affected by the achievement of the corporation's objectives and can be divided into the primary ones and the secondary ones (Freeman, 1984). A primary stakeholder is one without whose continuing participation the

company cannot survive and secondary stakeholders are those who influence or affect, or are influenced or affected by, the corporation, but they are not engaged in transactions with the corporation and are not essential for its survival (Clarkson, 1995). In order to assess the effects of sustainability activities, it is crucial to measure the impact of an event on numerous stakeholder groups, including both the primary and secondary ones.

### 2.1.3 Institutional Theory

Institutional theory considers the processes by which structures, including schemes, rules, norms, and routines, become established as authoritative guidelines for social behavior (Scott, 2004). The theory can be used to explain the relationship between sustainability performance and market performance and implies that firms adopt certain behaviors in order to get access to resources and support by critical stakeholders. Going forward, the legitimacy and survival of the firm is threatened if the firm should fail to conform to institutionalized norms of acceptability. The norms would in the case of this thesis be to conduct sustainability activities in order to meet market expectations. Hence, corporations will respond strategically to above mentioned norms in order to gain or maintain legitimacy (Suchman 1995; Bansal 2005). An important aspect of the institutional theory is whether firms are rewarded or penalized for their behavior, using social structures and norms as the benchmark to assess the market expectations.

### 2.1.4 Friedman's Critique

The Nobel Laureate Milton Friedman provides a rather strong market-based critique regarding sustainability conducted in organizations, namely that businesses have no social responsibilities beyond using its resources and engaging in activities designed to increase its profits (Friedman, 1970). Management is employed by the shareholders with the purpose of optimizing the owners' welfare, thus being the legitimate role of management. There is an everlasting problem between the owners, that is the shareholders, and their employees, that is the management. The obvious conflict of interest arises when one party controls the other owning party's resources. Hence, there is a risk that the management's spending decisions increase management's welfare based on their own perception of the social and environmental interest at the cost of reducing the available funds to shareholders (Thomsen & Conyon, 2012). Conclusively, Friedman's critique says that management should not engage in CSR activities since it does not add value to the shareholders of the company (Friedman, 1970).

## *2.2 Empirical Evidence*

The connection between sustainability activities and stock market performance is an active area of research. Previous empirical studies have used varying approaches in terms of delimitations and methodology. Therefore, different results for the relationship between sustainability activities and stock market performance have been found with no clear empirical evidence which has led to contradictory views regarding level of added value of such activities.

Empirical studies dealing with this relationship have been accumulating at a rapid rate with the majority of evidence in support of the conclusion that Corporate Social Responsibility (CSR) creates shareholder value (Fatemi & Fooladi, 2013). Utilizing a database provided by a large financial institution, Dimson, Karakas, and Li (2015) document on average a four percent abnormal return for firms that successfully conduct CSR practices. Moreover, they find that when the firms engage in the area of climate change or corporate governance, the market reaction is stronger. This is consistent with the findings of El Ghouli, Guedhami, Kwok, and Mishra (2011), and Plumlee, Brown, Hayes, and Marshall (2010), who show that US firms with good CSR performance experience lower cost of equity financing.

On the contrary, Cheung (2011) tries to answer if stock investors value corporate sustainability by analyzing the impacts of index inclusions and exclusions of sustainable firms. The sample consists of US stocks that are added to or deleted from the Dow Jones Sustainability World Index over the period 2002–2008. Cheung (2011) states that he cannot find any strong evidence that the announcement of an index inclusion or an index exclusion has any significant effect on stock market return. Alexander and Buchholz (1978) conduct a similar study in which they investigate CSR and stock market performance between the years 1970-1974 and conclude that there is no significant effect of social responsibility on stock market performance.

Furthermore, Lourenço et al. (2012) provide empirical evidence on how Corporate Sustainability Performance (CSP), proxied by membership in the Dow Jones Sustainability Index, is reflected in the market value of equity. Conducting a theoretical framework combining institutional perspectives, stakeholder theory, and resource-based perspectives, they relate the market value of equity to CSP. For a sample of North American firms, their results show that CSP in fact has significant explanatory power for stock prices beyond the

conventional accounting benchmarks, including earnings and book value of equity. Their findings suggest that what investors really do is to penalize firms with low levels of CSP.

Lastly, Stekelenburg, Georgakopoulos, Sotiropoulou, Vasileiou and Vlachos (2015) examine the relationship between Corporate Financial Performance (CFP) and CSP. This is done by firstly analyzing a sample of European stocks that were added to or deleted from the Dow Jones Sustainability Europe Index (DJSI Europe) over the period 2009-2013, and secondly by analyzing a sample of European stocks that were industry group leaders in CSP by the DJSI Europe over the same period, in which the impacts are measured in terms of abnormal stock returns. For the first analysis, their findings conclude that no strong evidence could be found that the announcement of the inclusion events and exclusion events has any significant impact on stock return. However, on the day of change and in the period following the announcement, index inclusion stocks experience a significant but temporary increase in stock market returns and index exclusion stocks experience a significant but temporary decrease in stock market returns. From the second analysis, on industry group leaders, it can be concluded that the market rewards firms with high levels of CSP. In the period after the day of change, industry group leader stocks experience a permanent and significant positive growth in stock returns.

### **3 Data and Method**

#### *3.1 Event Study Methodology*

In order to investigate the stock market responses to announcements of sustainability activities, this thesis employs a quantitative research method using a standard event study methodology originated by Ball and Brown (1968) and Fama, Fisher, Jensen and Roll (1969). The event study methodology is a common practice within the research area of finance and accounting and is a statistical method to assess the impact of an event on the value of a firm (MacKinlay, 1997). The result is used to determine whether the Cumulative Average Abnormal Return (CAAR) display significant increase or decrease during the event period. The fundamental assumption using this study is that capital markets are sufficiently efficient, implying that all relevant information that is introduced to the market will be efficiently absorbed and evaluated and ultimately reflected in the stock price instantaneously (McWilliams, Abigail & Siegel, 1997).

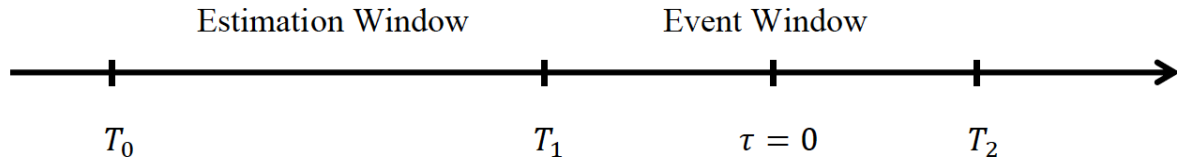
### 3.1.1 Parameters of the Empirical Design

Following MacKinlay (1997) an observation interval, an event window and an estimation window is specified. The observation interval is synonymous with a sample interval and the event window together with the estimation window constitutes the event period. In this study, a one-day long interval is employed, thus the data consists of daily stock market returns. Further, the event window is set to 3 days, comprised to day 0 as the announcement day of the event  $\pm 1$  day. A crucial issue when conducting an event study is to specify the event date correctly (McWilliams & Siegel, 1997). An event date is specified as an unanticipated event when new information is available to the market. If the exact date is anticipated by the market, the event could potentially have been specified incorrectly since stock prices might already incorporate the anticipated event outcome. If an event is specified incorrectly, one is exposed to the risk of drawing conclusions from a supposed event that de facto did not occur, which could lead to incorrect and biased results (MacKinlay, 1997). Therefore, it is of great importance to choose the right date for the specific events in the data set carefully and exclude events that are exposed to this risk.

It is typical for the event day window length to be larger than one even if the day of the announcement is typically considered to be made on a given date (MacKinlay, 1997). When considering applying a longer event window, the probability for news leakage, anticipation effects, delayed market reaction and information given after the stock market is taken into account (McWilliams et al., 1997; MacKinlay, 1997). The anticipation effect can be defined as a change in the stock market return prior to day 0. However, the expansion of the event window comes at a cost in terms of increased risk of including confounding events, thus decreasing the power of the test statistic (Brown & Warner, 1985; McWilliams et al., 1997).

In order to minimize the risk of potential bias in terms of confounding events affecting the stock market return, this study employs a 3-day event window to isolate and capture the stock market reaction to the news. According to the efficient market hypothesis, the stock price instantaneously reflects and incorporates new information to the market (Fama, 1970). Hence, a short event window comprised of 3 trading days should incorporate all abnormal returns. For each announcement, the 180 trading days prior to the event window will be the estimation window, which will be used in a regression to estimate a normal return (MacKinlay, 1997).

A complete time line of the study will be indexed  $\tau$  where  $\tau = 0$  is the announcement day,  $\tau = T_0 + 1$  to  $\tau = T_1$  is the estimation window and to  $\tau = T_1 + 1$  to  $\tau = T_2$  is the event window, as illustrated below:



**Figure 1.** Time line for an event study.

Using sustainability news communicated by the Bloomberg Terminal during the time period 01/01/2007 to 31/12/2016, specific dates for the events of interest are found and given an event ID. This thesis uses the Bloomberg Terminal news advanced search function to find the relevant announcements of sustainability activities. The rationale behind using the Bloomberg Terminal is that it is a market leading, flexible platform that enables real-time financial market data. The search consists of 72 different search words that have been translated from English to Swedish, Norwegian and Danish for each bank in order to minimize the risk of missing out on relevant news which would lead to a biased result. The search words are based on the definition of sustainable banking mentioned in section 1, *Introduction* and are presented in *Appendix 2*.

To define an announcement as either good news or bad news, the definition in section 1, *Introduction* is used. The probability that the stock price increases or decreases is evaluated from a sustainability perspective, meaning that good news are announcements of sustainability activities that are aligned with the interest of an investor, assuming that an investor values sustainability. Accordingly, bad news are announcements of sustainability activities that opposes the interest of an investor, keeping the same assumption as for good news unchanged. This thesis employs four reasons for neglecting news in order to minimize the risk of potential biases from irrelevant or misleading news:

- i) the news does not include sustainability activities,
- ii) the news includes other confounding events than sustainability activities,
- iii) the news does not include information that mention the banks and,
- iv) the news affects the banking sector as a whole and a not a specific bank.

Consequently, events that do not meet the requirements are omitted and thus the event ID sequence might not contain each and every number from the first found event to the last found event, as noted in *Appendix 1*.

### 3.1.2 The Market Model

For each sample security  $i$ , the return that the market should expect unconditional of the event is the normal return which needs to be calculated. The Market Model is used to proxy the normal return by deriving the relationship between the return of any given security to the return of the market portfolio (MacKinlay, 1997). Although there are several different models that can be used to model the normal return, such as the Constant Mean Return Model, Brown and Warner (1980, 1985) state that the Market Model reduces the variance of the abnormal return. Due to the reduction of the variance, the ability to detect event effects increases. Furthermore, Ahern (2009) found that the well-known multifactor models Fama and French 3 Factor Model and the Carhart 4 Factor Model does not contribute with any decrease of the forecast error bias that might occur in simpler methods such as the Market Model. Accordingly, consistent with prior literature including Stekelenburg et. al (2015), Freedman and Pattern (2004), Curran and Moran (2007) and Consolandi, Jaiswal-Dale, Poggiani and Vercelli (2009), the Market Model is used.

Generally, a broadly-based stock market index is used for the market return, with indexes such as the CRSP Value Weighted Index and S&P 500 Index being regular choices (MacKinlay, 1997). This thesis uses the MSCI Nordic Index as the benchmark market due to the fact that the data consists of stock prices of major commercial Scandinavian banks. The MSCI Nordic Countries Index captures large and mid-cap representation across Sweden, Norway, Denmark and Finland. With 70 constituents, the index covers approximately 85 percent of the free float-adjusted market capitalization in each country. Hence, it is a suitable proxy for the return of the market needed to estimate returns in the Market Model.

Moreover, the estimation window is used to estimate the normal return. The event window will not be included to avoid that the event influences the normal performance model parameter estimates. For a security  $i$  the Market Model is defined as:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \tag{1}$$

$$E(\varepsilon_{it} = 0) \qquad \text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_i}^2$$

Where:

- $R_{it}$  is the period-t returns on every given security.
- $R_{mt}$  is the period t returns on the MSCI Nordic Index.
- $\varepsilon_{it}$  is the zero mean distribution term.
- $\alpha_i$ ,  $\beta_i$  and  $\sigma_{\varepsilon_i}^2$  are parameters in the Market Model which will be estimated using OLS regression.

For the model to be correctly specified it is assumed that the asset returns are jointly multivariate normal as well as independently and identically distributed through time (MacKinlay,1997). Brown and Warner (1985) also state that estimates from OLS regression, with a market index tested with parametric statistical tests are well-specified using non-normally distributed daily data and into the presence of non-synchronous trading.

### 3.1.3 Abnormal Return

The proxy used for the return behavior is Abnormal Returns (AR). Necessary data, such as last stock price, is collected from the Bloomberg Terminal. The AR is defined as the difference between the return conditional of the event and the expected return unconditional of the event (Kothari & Warner, 2005). Therefore, the AR is a direct measure of the change in the stock investor's wealth associated with the event.

For a firm  $i$  and event date  $t$  the AR is defined as:

$$AR_{it} = R_{it} - E(R_{it}|X_t) \quad (2)$$

Where:

- $AR_{it}$  is the Abnormal Return.
- $R_{it}$  is the Actual Return.
- $E(R_{it}|X_t)$  is the Normal Return.
- $X_t$  is the conditioning information for the Market Model.

Given the Market Model parameter estimates, the AR is the disturbance term of the Market Model from the regression:

$$\widehat{AR}_{it} = R_{it} - \hat{\alpha} - \hat{\beta}R_{mt} \quad (3)$$



Brown and Warner (1985) state that the abnormal returns measured with procedures such as the Market Model display no significant mean bias. Moreover, it is assumed that ARs are normally distributed with mean zero and variance:

$$\widehat{AR}_{it} \sim N(0, \sigma^2(\widehat{AR}_{it})) \quad (4)$$

Further, to accommodate a multiple period event window, the Cumulative Abnormal Returns (CAR) during the event period are given by:

$$\widehat{CAR}_{i(\tau_1, \tau_2)} = \sum_{\tau=\tau_1}^{\tau_2} \widehat{AR}_{it} \quad (5)$$

The CAARs are given by:

$$\widehat{CAAR}_{i(\tau_1, \tau_2)} = \frac{1}{N} \sum_{i=1}^N \widehat{CAR}_{i(\tau_1, \tau_2)} \quad (6)$$

To test if the CAARs significantly differ from zero over the event window the  $\theta$ -test is used, calculated as:

$$\theta_1 = \frac{\widehat{CAAR}_{i(\tau_1, \tau_2)}}{\sqrt{\text{var}(\widehat{CAAR}_{i(\tau_1, \tau_2)})}} \sim N(0,1) \quad (7)$$

If the test statistic rejects the null hypothesis that the abnormal returns are equal to zero it can be concluded that good news and or bad news have a statistically significant impact on the stock market return. For the test statistic to be rejected, the  $\theta$ -value has to lie outside of the critical region of the test ( $\theta_{\alpha/2} = \pm 2,575$  for  $\alpha = 1\%$ ,  $\theta_{\alpha/2} = \pm 1,96$  for  $\alpha = 5\%$ ,  $\theta_{\alpha/2} = \pm 1,645$  for  $\alpha = 10\%$ ). In conclusion, if statistically significant, the CAAR return is assumed to measure the average effect of the event on the stock price of the firms that experienced the event. That is, the significance of the CAAR allows the researcher to infer that the event had a significant impact on the value of the observed firm (McWilliams, Siegel & Teoh, 1999).

### 3.2 Sample of the Study

The sample of this study includes Nordea, Handelsbanken, Swedbank, SEB, Danske Bank, Sydbank, Jyske Bank and DNB. These banks are publicly traded companies on either the Stockholm Stock Exchange in Sweden, the Copenhagen Stock Exchange in Denmark or the Oslo Stock Exchange in Norway. The above-mentioned banks are the major commercial players in the Scandinavian banking industry and are hence the most relevant and interesting

actors to analyze as they are representative to the industry as a whole. Furthermore, the sample consists of events over a period of ten years between 01/01/2007 to 31/12/2016 in order to get a fairly substantiated view of the effects of media reported announcements. The rationale behind using this time period is due to the impact Al Gore's documentary film on climate change and its disastrous effects of the planet *An Inconvenient Truth* from May 2006, had on sustainable development in organizations and societies across the globe from that point on (Jacobsen, 2010).

Panel A of Table 1 displays the number of good news and bad news per year. In total, there are 58 good news and 33 bad news announcements, adding up to a total of 91 events. The total number of events per year varies from its lowest (4) during the period 2007-2009 to its highest (30) in 2016. Moreover, there is an increasing number of events with time over the ten-year observation period, namely by 650 percent from 2007 to 2016. Panel B presents the sustainability announcements from the different Scandinavian countries. Sweden is the country with the highest number of events (66), accounting for approximately 73 percent of the sample, followed by Norway (13) and lastly Denmark (12) accounting for around 14 percent and 13 percent, respectively. As shown in Panel C, a variety of Scandinavian banks are included in the sample. This thesis employs the respective ISIN codes for the banks for classification purposes. Notable is that Nordea (26) and SEB (20) are the banks with the highest number of events, followed by Swedbank (16), DNB (13), Danske Bank (10), Handelsbanken (4) and lastly Jyske Bank and Sydbank with one observed event each.

**Table 1.** Sample of the study by year, country and bank.

<b>Panel A: Number of good news and bad news by year</b>			
<b>Year</b>	<b>No. of Good News</b>	<b>No. of Bad News</b>	<b>Total</b>
2007	4	0	4
2008	3	1	4
2009	3	1	4
2010	9	0	9
2011	4	0	4
2012	0	3	3
2013	7	2	9
2014	5	4	9
2015	11	4	15
2016	12	18	30
<b>Total</b>	<b>58</b>	<b>33</b>	<b>91</b>

<b>Panel B: Sample of the study by country</b>		
Country	No. of events	Percent
Sweden	66	72,53
Norway	13	14,29
Denmark	12	13,19
<b>Total</b>	<b>91</b>	<b>100,00</b>

<b>Panel C: Sample of the study by bank</b>			
Bank	ISIN codes	No. of Events	Percent
Danske Bank	DK0010274414	10	10,99
DNB	NO0010031479	13	14,29
Handelsbanken	SE0007100599	4	4,40
Jyske Bank	DK0010307958	1	1,10
Nordea	SE0000427361	26	28,57
SEB	SE0000148884	20	21,98
Swedbank	SE0000242455	16	17,58
Sydbank	DK0010311471	1	1,10
<b>Total</b>		<b>91</b>	<b>100,00</b>

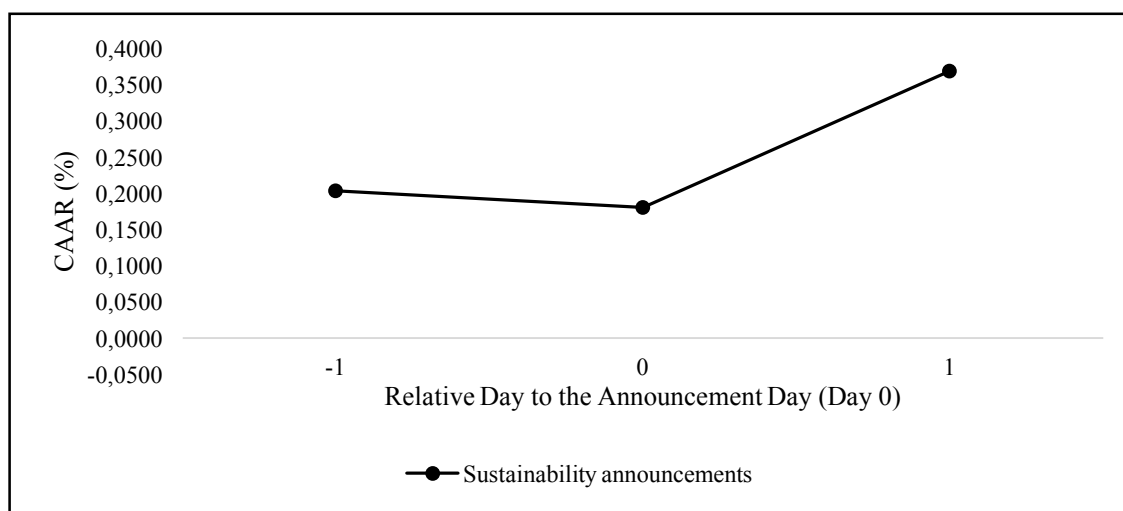
## 4 Research Results

This section presents the results from the statistical tests, with corresponding analysis and discussions as well as conclusions left for the next two sections. The research results are divided into the respective research questions. For research question 1, Figure 2 describes the CAAR pattern during the event window for all events. Further, regression results and descriptive statistics are presented in Table 2 and Table 3 respectively. For research question 2, Figure 3 describes the CAAR pattern during the event window divided into good news and bad news. Moreover, regression results and descriptive statistics are presented in Table 4 and Table 5 respectively.

In addition to conducting the three-day event window, this thesis employs a robustness test for the research questions by reconstructing the test with a 5-day event window. For research question 1, Figure 4 describes the CAAR pattern during the event window for all events in the robustness test. Moreover, regression results and descriptive statistics are presented in Table 6 and Table 7 respectively. For the robustness test of research question 2, Figure 5 describes the CAAR pattern during the event window divided into good news and bad news. Lastly,

regression results and descriptive statistics are presented in Table 8 and Table 9 respectively. More descriptions of the data sets are located in *Appendix 1*.

#### 4.1 Research Question 1



**Figure 2.** Plot of CAAR for sustainability announcements from event day -1 to event day 1

The first research question for this thesis is: *Do announcements of sustainability activities affect stock market performance in the Scandinavian banking industry?* The trading behavior is examined in order to investigate whether there are abnormal returns during the event window. Figure 2 presents the time-series behavior of the CAARs in the event window, showing that there is a slightly positive anticipation effect on the day prior to the event day followed by a strong increase of CAAR on the day following the event day. The figure also suggests that the CAAR is positive throughout the event window which can be explained by the fact that the majority of the announcements in the sample are good news. However, Figure 2 does not allow to distinguish the actual impact of the sustainability announcements and it does not indicate whether the effect is significant or not. To overcome these limitations, a detailed analysis on the event window is shown in Table 2.

**Table 2.** CAARs in the 3-day event window (announcement day  $\pm 1$  day) for sustainability announcements.

Period 2007–2016		Sustainability Announcements	
Event day	CAAR (%)	$\theta$ -test	
-1	0,2033	0,9665	
0	0,1801	0,8219	
1	0,3687	1,6302	

*Note* \*, \*\* and \*\*\* denotes significance at the 10, 5 and 1% level, respectively

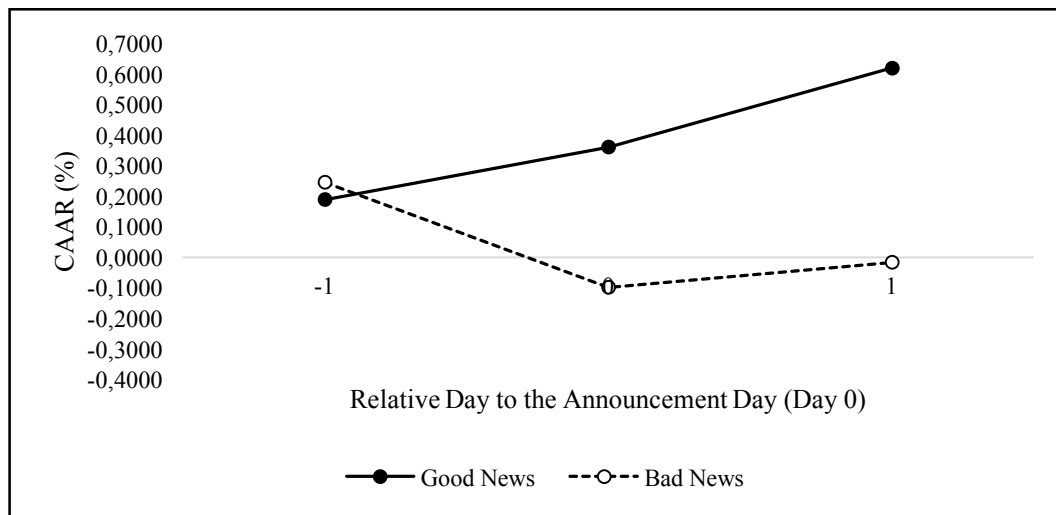
**Table 3.** Descriptive statistics of CAR for the sample of sustainability announcements with a 3-day event window.

Types	Sustainability Announcements
Median	0,3276
Standard Deviation	2,5906
Spread	16,3998

*The table presents the median value and the standard deviation to add to the mean values (CAAR) presented in Table 2. Spread is calculated as the maximum CAR subtracted with the minimum CAR of the samples.*

Table 2 shows that the sustainability announcements generate a CAAR of 0,2033 percent on the day before the announcement, a decrease of the CAAR to 0,1801 percent on the announcement day and an increase to 0,3687 percent one day after the announcement day. However, Table 2 also indicates that the null hypothesis that the abnormal returns are equal to zero cannot be rejected given that neither of the test statistics lies outside the critical regions of the test. Hence, there is no evidence to support the notion that the announcement of a sustainability activity affects stock market performance in the way that the figure depicts.

#### 4.2 Research Question 2



**Figure 3.** Plot of CAAR for sustainability announcements divided into good news and bad news from event day -1 to event day 1.

The second research question for this thesis is: *Is there any difference in effect on stock market performance between announcements of good news and bad news?* Figure 3 presents the time-series behavior of the CAAR over the event window for the announcements of good news and bad news. The figure shows that the CAARs of announcements of bad news

decreases on the day of the announcement. Also, a temporary effect in terms of a small increase in the stock return on the day after the announcement day is observed. This implies that there might be a price reversal effect for the announcements of bad news as noted by Stekelenburg et al. (2015). However, regarding announcements of good news, there seems to be an anticipation effect given that the CAAR is positive before the announcement. Further, it is quite clear that announcements of good news experience an upward price movement. However, as with Figure 2, Figure 3 does not indicate whether the effect is significant. Thus, a detailed analysis on the event window is shown in Table 4.

**Table 4.** CAARs in the 3-day event window (announcement day  $\pm 1$  day) for sustainability announcements separated into good news and bad news.

Period 2007-2016	<b>Panel A: Good news announcement</b>		<b>Panel B: Bad news announcement</b>	
Event day	CAAR (%)	$\theta$ -test	CAAR (%)	$\theta$ -test
-1	0,1883***	2,3359	0,2458	0,4667
0	0,3606***	4,4720	-0,0978	-0,1857
1	0,6203***	7,6929	-0,0168	-0,0319

*Note.* \*, \*\* and \*\*\* denotes significance at the 10, 5 and 1% level, respectively

**Table 5.** Descriptive statistics of CAR for sustainability announcements separated into good and bad news with a 3-day event window.

Types	Good news	Bad News
Median	0,3028	0,3412
Standard Deviation	2,5231	2,7253
Spread	16,7981	13,8341

*The table presents the median value and the standard deviation to add to the mean values (CAAR) presented in Table 4. Spread is calculated as the maximum CAR subtracted with the minimum CAR of the samples.*

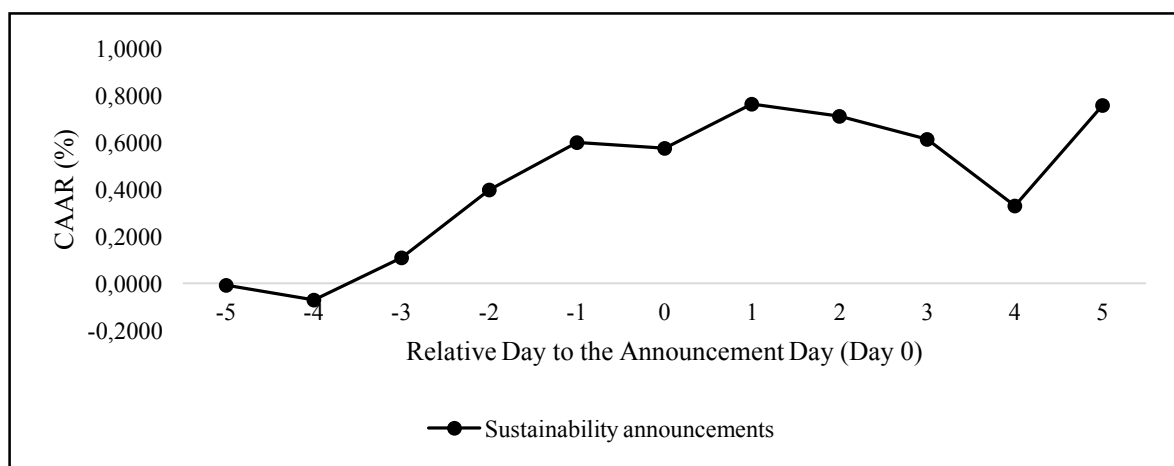
Panel A of Table 4 includes the CAAR and corresponding significance test in order to draw conclusions regarding the effects on stock market performance for announcements of good news. The test suggests evidence that sustainability announcements of good news generate a CAAR of 0,1883 percent on the day prior to the event day, increases to 0,3606 percent on the event day and increases to 0,6203 percent the day following the event day. Furthermore, the effect of the events on stock market performance are statistically significant for every day in the event window according to the  $\theta$ -test, given that the test statistics lies outside the critical regions of the test. This suggests that investors respond positively to announcements of good sustainability news.

Going forward, Panel B of Table 4 also includes the CAAR and corresponding significance test in order to draw conclusions regarding the effects on stock market performance for announcements of bad news. The test suggests evidence that announcements of bad sustainability news generate a CAAR of 0,2458 percent on the day prior to the event day, decreases to -0,0978 percent on the event day and decreases to -0,0168 percent on the day following the event day. Furthermore, the effect of the events on stock market performance are statistically insignificant for every event day according to the  $\theta$ -test given that neither of the test statistics lies outside the critical regions of the test. Hence, no significant results for the announcements of bad sustainability news are found.

### 4.3 Robustness Test

In general, a robustness test is done in order to measure the test's ability to effectively perform while its variables are altered with the aim to understand whether the test still provides insight to a stated problem. The robustness of the results found in this study is tested by a reconstruction of the test with an expanded event window and an identical estimation window of 180 days, in line with Stekelenburg et al. (2015). The new event window includes 11 trading days and constitutes of the announcement day ( $\tau = 0$ )  $\pm 5$  days. The number of days are chosen to see more clearly if there is an anticipation effect present and if the price change seems to be permanent in contrast to a price reversal. A consequence of conducting a longer event window is that more confounding events are likely to be present, potentially affecting the level of statistical significance. The confounding events have not been controlled for in the robustness test and that might bias the results.

#### 4.3.1 Research Question 1



**Figure 4.** Plot of CAAR for sustainability announcements from event day -5 to event day 5.

Figure 4 presents the behavior of the CAARs during the 11 days of trading in the event window. The figure exhibits that there is a positive anticipation effect from day -4. The figure also shows that there is a slight movement towards zero roughly 1 day after the announcement, but then revert further upwards. Therefore, it cannot be concluded that there is a price reversal effect even if the CAAR goes towards a zero-abnormal return. Information regarding the statistical significance is shown in Table 6.

**Table 6.** CAARs in a larger event window of 11-days (announcement day  $\pm 5$  day) for sustainability announcements.

Period 2007-2016	<b>Panel A: Good news announcement</b>	
Event day	CAAR (%)	$\theta$ -test
-5	-0,0075	-0,0110
-4	-0,0704	-0,1038
-3	0,1112	0,1640
-2	0,3984	0,5875
-1	0,5991	0,8833
0	0,5765	0,8501
1	0,7642	1,1267
2	0,7104	1,0474
3	0,6148	0,9064
4	0,3310	0,4880
5	0,7581	1,1177

*Note.* \*, \*\* and \*\*\* denotes significance at the 10, 5 and 1% level, respectively

**Table 7.** Descriptive statistics of CAR for sustainability announcements with a 11-day event window.

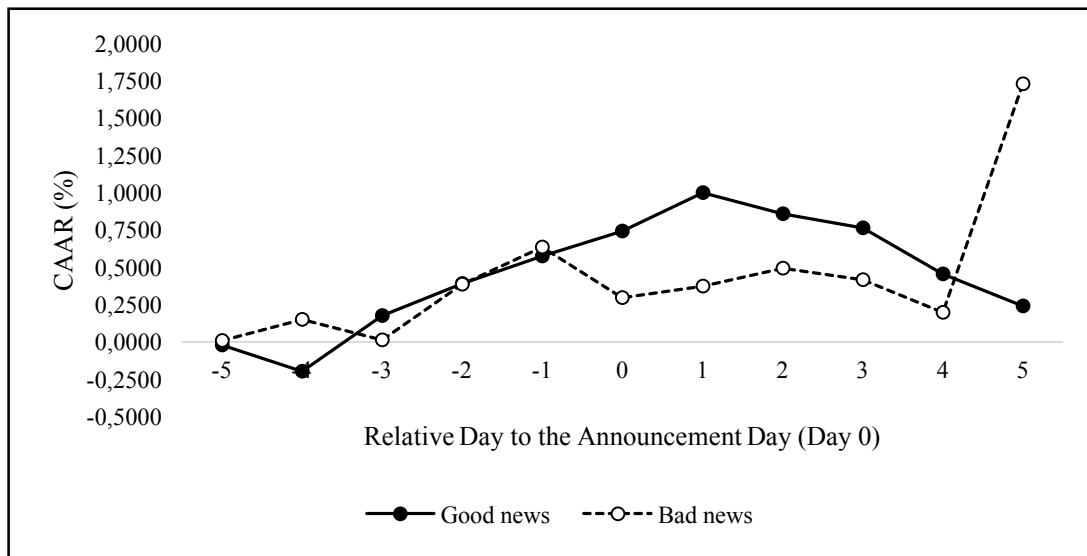
<b>Types</b>	<b>Sustainability Announcements</b>
Median	0,6495
Standard Deviation	4,6986
Spread	34,0464

*The table presents the median value and the standard deviation to add to the mean values (CAAR) presented in Table 6. Spread is calculated as the maximum CAR subtracted with the minimum CAR of the samples.*

The results of the robustness test for research question one show that none of the CAARs are statistically significant. Recalling the results from section 4.1, *Research Question 1*, the results are essentially the same.



#### 4.3.2 Research Question 2



**Figure 5.** Plot of CAAR for sustainability announcements divided into good news and bad news from event day -5 to event day 5.

Figure 5 presents the time-series behavior of the CAAR over the event window for the announcements of good news and bad news in a 11-day event window. The figure reports that both types of events have a positive anticipation effect. Regarding announcements of good news, the CAAR seems to go towards zero after day 1, which could imply a price reversal effect. Moreover, the CAAR of the bad news drops on the day of the announcement and then increases only slightly to later decrease again from day 2. There is no sign of a price reversal effect due to the fact that the CAAR on day 5 increases drastically. However, to see if the effect is significant or not, Table 8 needs to be analyzed.

**Table 8.** CAARs in a larger event window of 11-days (announcement day  $\pm 5$  day) for sustainability announcements separated into good news and bad news.

Period 2007-2016	<b>Panel A: Good news announcement</b>		<b>Panel B: Bad news announcement</b>	
Event day	CAAR (%)	$\theta$ -test	CAAR (%)	$\theta$ -test
-5	-0,0235	-0,0314	0,0087	0,0052
-4	-0,1978	-0,2641	0,1483	0,0893
-3	0,1743	0,2328	0,0089	0,0053
-2	0,3893	0,5200	0,3860	0,2324
-1	0,5733	0,7657	0,6311	0,3800
0	0,7419	0,9909	0,2929	0,1764
1	0,9986	1,3337	0,3726	0,2243
2	0,8550	1,1419	0,4907	0,2954
3	0,7633	1,0195	0,4143	0,2495
4	0,4528	0,6047	0,1962	0,1181
5	0,2392	0,3194	1,7292	1,0411

*Note.* \*, \*\* and \*\*\* denotes significance at the 10, 5 and 1% level, respectively

**Table 9.** Descriptive statistics of CAR for sustainability announcements separated into good and bad news with a 11-day event window.

Types	Good news	Bad News
Median	0,4331	1,1498
SD	4,0998	5,4400
Spread	21,6936	29,2624

*The table presents the median value and the standard deviation to add to the mean values (CAAR) presented in Table 8. Spread is calculated as the maximum CAR subtracted with the minimum CAR of the samples.*

The choice of event window length seems to have implications for the results of the second research question. The initial event window presented a highly significant result for the good news. Table 8 shows that the good news loses their significance for each event day with a longer event window. The table also reports that bad news does not experience a change in the level of significance. However, the CAARs of day 0 and day 1 now have an opposite value with positive CAARs instead of negative ones for bad news announcements due to the expansion of event window length.

## 5 Analysis and Discussion

This section analyses and discusses the research results presented in section 4, *Research Results*. The aim is to explain the results based on the theoretical framework and empirical

evidence presented in section 2, *Theoretical Framework and Empirical Evidence*. The amount of data employed in this thesis together with the usage of established methods, makes the results of this thesis trustworthy and reliable.

From the findings for the first research question it can be concluded that announcements of sustainability activities do not show any statistically significant results. Hence, the null hypothesis that the abnormal returns are equal to zero cannot be rejected. The result is in line with the findings of Cheung (2011) and Alexander and Buchholz (1978) that suggest that there is no significant effect of social responsibility on stock market performance. Given the findings, an implication to stock market investors seeking an increase in the return of their portfolio, sustainability activities are unnecessary since no added value is created from their announcements in terms of stock market performance. In particular, the sustainability initiatives conducted by the Scandinavian banks are a waste of resources that could have been used more productively and efficiently by allocating them to other projects more likely to increase shareholder wealth (Thomsen & Conyon, 2012). Given that the management's main purpose is to optimize the shareholders' wealth, the banks should engage in other activities than sustainability activities, as denoted by Friedman (1970).

As for the findings for the second research question, announcements of bad sustainability news show statistically insignificant results. Thus, it is not reasonable to assume a relationship between announcements of bad sustainability news and stock market performance. This finding can be explained by the fact that the bad news data constitutes of 33 events as opposed to the good news data of 58 ones out of a total of 91 events. As suggested by McWilliams, Siegel and Teoh (1999), small samples may account for results that are statistically insignificant since they are much more likely to lead to biased and inaccurate estimates of abnormal returns because of outliers or confounding events.

The finding might also be explained by the fact that a substantial fraction of the bad news data constitutes of events that reflect rather lengthy processes, including the Panama Papers of Nordea and the CEO scandal in Swedbank, which erupted due to poor corporate governance. The extensive media coverage of these bad news might have the implication that the market expects that the initial announcement will have consequences. Therefore, new information with regards to the bad news might already be anticipated and priced in the stock price, thus eliminating the potential abnormal returns and ultimately affecting the level of significance.

Furthermore, the banking industry seems to be generally perceived as a rather filthy and greedy industry (Jeucken, 2004). The perception of the industry could thus have the implication that the market participants are not shocked and ultimately not prepared or sufficiently affected to divest their shareholdings in the bank when reached by information of bad sustainability news. These possible explanations would be in line with the efficient market hypothesis which states that an asset's price fully and immediately reflects all available information in the market (Fama, 1970).

On the contrary, announcements of good sustainability news indicate statistically significant results. Hence, it is reasonable to conclude that there is a relationship between the announcements of good sustainability news and stock market performance with regards to abnormal returns. Also, announcements of good sustainability news generate an upward trend in terms of an increase in CAAR. The findings of this thesis are in line with Stekelenburg et al. (2015) who suggest that on the day of change and in the period following the announcement, stocks included (excluded) in the Dow Jones Sustainability Index experience a significant increase (decrease) in stock market returns. Furthermore, our findings confirm the view of Dimson et al. (2015) that document significant abnormal returns for firms that successfully conduct CSR practices.

However, there are two implications to the relevancies of the findings. Firstly, it should be noted that when testing for robustness, the test is no longer significant for all days in the event window. As expressed by McWilliams et al. (1997), there is an implicit problem when conducting an event study in terms of isolating and capturing an event without including any confounding events with news having greater impact on stock market performance when expanding the event window. Obviously, losing significance for all days in the expanded event window as denoted by the robustness test indicates that confounding events might have been included, thus affecting the validity of the results. Secondly, the CAAR increase in the event window is quite small with an increase to 0,6 percent one day after the event. In conclusion, the findings indicate small but positive steps towards a real value-creation potential of sustainability activities in the long-term for the Scandinavian banking industry.

Given that this thesis finds significance for announcements of good sustainability news and that these news create value in terms of stock market performance, it contradicts Friedman's critique. Management is employed by the shareholders with the purpose of optimizing the

owners' welfare. Friedman implies that sustainability activities fulfill other things than maximizing shareholder value and consequently that management should not engage in CSR activities since it does not add value to the company (Friedman, 1970). However, the findings suggest the opposite for the Scandinavian banking industry with respect to the stock market since announcements of good sustainability news generate a statistically significant and positive increase in CAAR.

In the context of Scandinavian management, the concept of Scandinavian Cooperative Advantage is the general tendency for corporations in Scandinavia to implement a value creating strategy based on cooperating with their stakeholders that result in greater value creation (Strand et al., 2015). Scandinavian firms are widely considered global sustainability leaders and are well represented in the leading global sustainability performance indices. Moreover, Scandinavian governments and policymakers have set up systems that align financial aims with the collective aim of sustainability (Strand et al., 2015). Given the significance of the findings that announcements of good news have a value-creation potential, the implication of the stakeholder theory is that stakeholders within the Scandinavian banking industry value sustainability.

One could argue that the social norm for the banks seems to be to aim at affecting sustainability in a positive way with their activities. Accordingly, failing to affect sustainability positively, or even worse behaving in a way that affects sustainability negatively, would result in announcements of bad news and should hence be punished at the stock market. However, this thesis does not provide any evidence that announcements of bad sustainability news penalizes major commercial Scandinavian banks by affecting the stock market return negatively. This is contradictory to the conclusion of Lourenço et al. (2012) that suggest that what investors really do is to penalize firms with low levels of CSP through decreased stock market returns. Thereby, banks can fail to affect sustainability positively, or even worse behave in a way that affects sustainability negatively. Announcements of bad sustainability news creates an opportunity to address the issues and thereby gaining legitimacy for their sustainability activities while simultaneously creating value in terms of stock market performance. The legitimacy and survival of the bank would be threatened if the bank should fail to conform to institutionalized norms of acceptability, as suggested by the institutional theory. Hence, corporations respond strategically to norms and structures in order to gain or maintain legitimacy (Suchman 1995; Bansal 2005).

Lastly, Fatemi and Fooladi (2013) projects that good environmental, social and governance performance will become the new norm for firms, and firms that fail to recognize their environmental and social responsibilities will find themselves valued at a discount relative to their peers. Accordingly, sustainable development within the Scandinavian banking industry seems to move in a direction where conducting good sustainability activities is rewarded in terms of stock market performance. As denoted in Panel A of Table 1, the number of sustainability news from 2007 to 2016 have increased by 650 percent, implying the growth potential in this area of research. Potentially, this development will continue and ultimately have the implication that more banks will want to conduct activities that has a positive influence on sustainable development in order to increase the value for their shareholders. Thus, the phenomenon doing well by doing good seems to hold.

## **6 Conclusions**

The purpose of this thesis was to determine whether announcements of sustainability activities affect stock market performance in the Scandinavian banking industry. By conducting an event study, different results have been found. Regarding the first research question, the findings from this study suggest that the null hypothesis that the abnormal returns are equal to zero cannot be rejected. Hence, there is no evidence to support the notion that announcements of sustainability activities affect stock market performance. With regards to the second research question, no significant results for the announcements of bad sustainability news are found. Thus, there is no evidence to support a relationship between announcements of bad sustainability news and stock market performance. Moreover, announcements of good sustainability news show statistically significant results, implying that investors seem to respond positively in terms of firm value to announcements of good sustainability news.

Conclusively, living up to the expectations of the social norm to conduct good sustainability activities, as implicated in the institutional theory, is rewarded and failing to do so is not penalized at the stock market. Hence, major commercial Scandinavian banks should focus on communicating those sustainability activities that have a positive effect on sustainability to their shareholders and other stakeholders, given that it has a value-creation potential.

In the long-term, the authors of this thesis are convinced that sustainability will be further incorporated in organizations in general and banks in particular. This thesis provides evidence for the relationship between sustainability activities and stock market performance for announcements of good sustainability news and helps understand to what extent it has a value creation potential. Although the benefits are small in terms of stock market performance, it is of great importance to understand what impact the sustainability activities actually have on societies in terms of minimized negative externalities in the long-term perspective. Potentially, the findings of this this thesis could impact the way sustainability activities are conducted in the Scandinavian banking industry in the future and possibly impact the way sustainability news are communicated to the market. Also, the Scandinavian banking industry can serve as a prominent example in the field of sustainable banking to other major commercial banks, not least in Europe, that could spur the development towards divesting in unethical companies that violate human rights, exhibits poor corporate governance and that contribute to negative externalities in general.

Given that sustainable development will inevitably become the new norm, the early adopters of sustainability in their organizations will find themselves valued at a premium compared to other industry participants. More importantly, the banking industry has tremendous potential to affect positive change through its unique position as an intermediary. A sustainable approach to banking is a long-term project and enables all participants in society a stable and prosperous future through minimized negative externalities. Ultimately, sustainable banking helps to spur sustainable development in societies and organizations globally in order to create more viable living conditions for future generations.

## **7 Proposals for Further Research**

Based on the findings of this thesis, interesting further research would be to examine the sustainability performance of the major commercial banks within the European Union using an event study methodology and compare the results with those of this study on the Scandinavian banks. In December 2014, the *Directive on disclosure of non-financial and diversity information by certain large companies* was adopted by the member states within the European Union with the aim to strengthen the transparency and accountability of the reporting companies. It is expected that the first company reports will be published in 2018,

covering financial year 2017-2018. Hence, it would be of interest to examine if the banks within the European Union communicate more regarding sustainability after the implementation of this directive and what effect it has on stock market performance.

Moreover, the event study methodology dominates the empirical research of corporate finance due to its straightforwardness and its results in direct wealth effects. The method observes how the stock market reacts and does not consider to what extent the banks are required to conduct sustainability activities. Hence, a method that weighed the differences in requirements and legislations would be of interest to examine.

Lastly, the data employed in this study consists of all relevant news that are reported in the media through press releases from the banks themselves and through publications in newspapers and in other news sources. However, when a bank itself decides to communicate an event, there might lie an implicit risk that the underlying rationale is to affect the stock market price and ultimately an increase in value of the firm. Therefore, it would be of interest to create a regression model including press release as a control variable.



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# Appendix

## Appendix 1: Events

**Table 10.** List of events used in this study sorted by Event ID.

Event ID	Bank	Event Date	Dummy Good News	Dummy Bad News	Event ID	Bank	Event Date	Dummy Good News	Dummy Bad News
002	Nordea	2015-08-27	1	0	052	Handelsbanken	2015-05-19	0	1
003	Nordea	2016-04-19	0	1	053	Handelsbanken	2014-09-10	1	0
004	Nordea	2016-09-16	0	1	054	Sydbank	2014-01-31	0	1
005	SEB	2016-11-21	1	0	055	Danske Bank	2014-01-07	0	1
006	SEB	2016-09-08	1	0	056	DNB	2013-07-16	1	0
007	Nordea	2016-04-28	0	1	057	Nordea	2013-04-16	0	1
008	SEB	2015-06-23	1	0	058	Danske Bank	2013-02-06	0	1
009	SEB	2014-07-29	1	0	059	Danske Bank	2012-07-11	0	1
010	SEB	2013-09-27	1	0	060	Swedbank	2010-09-24	1	0
011	Nordea	2013-07-08	1	0	061	Jyske	2010-08-26	1	0
012	Swedbank	2013-05-30	1	0	063	DNB	2016-11-07	0	1
013	SEB	2013-03-18	1	0	066	DNB	2013-05-30	1	0
014	SEB	2011-10-21	1	0	067	Nordea	2016-10-02	0	1
015	SEB	2011-09-28	1	0	068	Danske Bank	2016-10-02	1	0
016	Nordea	2011-02-04	1	0	069	Handelsbanken	2016-10-02	1	0
017	SEB	2010-10-20	1	0	070	Danske Bank	2014-02-11	0	1
018	Swedbank	2010-09-13	1	0	071	Nordea	2016-12-01	0	1
019	SEB	2010-08-30	1	0	072	Swedbank	2016-11-23	1	0
020	Swedbank	2010-07-27	1	0	073	Swedbank	2016-05-10	0	1
021	Nordea	2010-05-26	1	0	074	Nordea	2016-04-12	0	1
022	SEB	2009-10-20	1	0	076	Nordea	2016-04-04	0	1
023	SEB	2009-04-22	1	0	077	Swedbank	2016-04-03	0	1
024	Nordea	2016-10-17	1	0	078	Nordea	2016-02-29	1	0
026	Nordea	2016-08-29	1	0	079	Swedbank	2016-02-09	0	1
027	SEB	2016-06-29	1	0	080	Nordea	2015-09-23	1	0
028	Nordea	2016-06-17	0	1	081	Nordea	2015-01-15	0	1
031	Swedbank	2016-03-30	0	1	082	SEB	2014-06-26	1	0
032	Swedbank	2016-03-23	0	1	083	SEB	2013-06-26	1	0
033	Swedbank	2016-02-13	0	1	084	Nordea	2012-12-24	0	1
034	SEB	2014-06-05	1	0	085	Swedbank	2008-07-02	1	0
035	Nordea	2011-03-09	1	0	086	Swedbank	2008-04-17	1	0
036	Danske Bank	2015-02-26	1	0	087	Swedbank	2007-11-12	1	0
037	Danske Bank	2014-02-07	0	1	088	Swedbank	2007-10-18	1	0
038	DNB	2016-08-15	1	0	089	Handelsbanken	2007-04-03	1	0
039	DNB	2014-04-29	1	0	091	SEB	2007-04-03	1	0
040	DNB	2010-12-30	1	0	092	SEB	2008-08-05	1	0
041	DNB	2010-02-17	1	0	093	SEB	2015-11-25	1	0
042	DNB	2009-09-03	1	0	094	SEB	2015-02-04	1	0
043	DNB	2009-08-25	0	1	095	DNB	2015-02-04	1	0
044	DNB	2008-10-23	0	1	096	Nordea	2015-11-19	1	0
046	Nordea	2015-07-08	0	1	097	Nordea	2015-01-20	1	0
047	Danske Bank	2016-03-22	0	1	098	Danske Bank	2012-12-20	0	1
048	Danske Bank	2016-01-07	1	0	099	DNB	2016-11-06	1	0
049	Nordea	2015-08-12	1	0	100	Swedbank	2016-04-20	0	1
050	Nordea	2015-08-03	1	0	101	DNB	2016-04-11	0	1
051	Nordea	2015-05-19	0	1					

*Events are gathered from the Bloomberg Terminal's news Smart Search function. If "Dummy Good News" takes the value one, that indicates that the event is categorized as good news. Otherwise, Dummy Good News takes the value zero. If "Dummy Bad News" takes the value one, that indicates that the event is categorized as bad news. Otherwise, Dummy Bad News takes the value zero.*

## Appendix 2: Search Words

**Table 11.** List of search words used to find announcements of sustainability activities.

Sustainability Search Words		
Anticorruption	Environment	Philanthropy
Bribery	Environmental	Principles for responsible investments
Carbon	Environmentally friendly	Rating
CDP	ESG	Renewables
Climate change	Ethical fund	Responsible advising
Climate-smart	Ethical funds	Responsible credits
Climate	Ethical	Responsible investments
Coal	Ethics	Responsible lending
Compliance	Fossil fuel	Responsible selling
Corporate governance	Gender	Safety
Corporate social responsibility	Green banking	Socially Responsible Investing
Corporate sustainability	Green bond	Solar
Corruption	Green bond principles	SRI
Crime	Green bonds	Sustainability
CSR	Green finance	Sustainable finance
Customer satisfaction	Green fund	Sustainable
Diversity	Green funds	The equator principles
DJSI	Greenhouse	Transparency
Dow jones sustainability index	Human rights	UNEP FI
EBA	Labor rights	United Nations Environment Programme Finance Initiative
Embezzlement	NORSIF	United Nations Global Compact
Emissions	Nuclear	War
Employee health	OECD	Waste
Energy	Peace	Wind

*Each search word has been used with the Bloomberg Terminal's Smart Search function and is based on the definition of sustainability stated in section 1, Introduction. During the search process the search words have been translated from English to Swedish, Norwegian and Danish for each bank.*